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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KIM, EUNHEE	
ART UNIT	**PAPER NUMBER**
2123	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/616,140	TURK ET AL.	
	Examiner	Art Unit	
	EUNHEE KIM	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *36,41 and 44-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *36, 41, and 44-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/01/2010 has been entered.

2. The amendment filed 11/01/2010 has been received and considered. Claims 36, 41, and 44-48 are presented for examination.

Information Disclosure Statement

3. The listing of references in the specification, for example US patent in paragraph [3], is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 36, 41, and 44-48 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no reference to index information, only range of mesh points in line 1-4 of page 9 in the Specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 36, 41, 45 and 47 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Faruque et al. (U.S. Pub. No 2003/0149500), in view of Kumashiro (US 6360190 B1).

As per Claim 45, Faruque et al. teaches a method (Abstract) comprising:

providing an object database (Fig. 1) comprising a plurality of data files wherein each data file relates to an object that is one of a discrete part and a sub-assembly for incorporation into an assembly (Fig. 1, [0023]-[0024], [0034], [0038]-[0039]) , the data file containing information relating to the physical design of the object ([0019], [0021]-[0024]), information relating to the physical properties of the object ([0005], [0039]), information relating to locations on the object wherein the object may be joined to another object ([0041], [0043]), and available options for joining the object at each location ([0034], [0041], [0043]); information relating to the status of the object ([0050]), information relating to at least one of a current, a previous, and a proposed use of the object ([0049]), information relating to the simulation of the object within a simulation tool ([0006], [0008], [0025], [0036]), information relating to a compliance of the object ([0036], [0051]), and information relating to pending activities relating to revision of the object wherein the database is revised after any revisions to the object to reflect the current status of each object after any revisions to the object or information associated with the object (Fig. 2-4, [0040], [0042]);

creating through at least one user interface (Fig. 1), the assembly by selection of at least one object from the object database and, where necessary, the user interface allowing for at least one of specification and confirmation of predetermined data of at least one of the location and method of joining the object to another object (Fig. 2-4, [0022], [0038], [0041], [0043]);

generating a mesh model of the assembly comprising a plurality of mesh parts (Fig. 4A);

associating material properties relating to the physical properties of the object to each mesh part (Fig. 2-4, [0005], [0039]);

associating material properties relating to a connection of the object and selected method of , joining to each mesh part (Fig. 2-4, [0005], [0039] [0043], [0045]);

storing the mesh model of the assembly into an assembly database together with an associated parts list defining the objects, the selected locations of joining the objects, and the selected methods of joining the objects (Fig. 2-4, [0023], [0038], [0043], [0045], [0052]);

selecting through any user interface a simulation to be performed upon the assembly and establishing parameters relating to the simulation by at least one of user entered data and confirmation of predetermined data (Fig. 2-4, [0006], [0008], [0025], [0036]);

executing the simulation on the assembly (Fig. 2-4, [0006], [0008], [0025], [0036]);

storing the result of the simulation in the assembly database relating to the simulation performed and the assembly simulated (Fig. 2-4, [0006], [0008], [0025], [0036]);

analyzing an aspect of the simulation result against a performance parameter extracted from a compliance database for compliance, the performance parameter being selected in dependence upon at least the assembly and the simulation (Fig. 2-4, [0021], [0025], [0031]);

generating a task list of activities pending for the assembly ([0042]);

updating, based upon the compliance analysis, the compliance data relating to each object within the assembly and adding to the data file for each object in the assembly simulation information relating to at least one of the simulation, the results of the simulation, and the compliance data relating to that object such that the data file has information superseding any previous simulation (Fig. 2-4, [0052]);

fixing, based on the simulation, imperfections in the mesh (Fig. 2-4, [0051]);

generating a mesh model, as so fixed, without reference to other parameters of the objects in the assembly that were not fixed (Fig. 2-4, [0051]); and

updating, based upon the compliance analysis, the compliance data relating to each object within the assembly, preceding a further simulation (Fig. 2-4, [0052]).

Faruque et al. fails to teach explicitly storing the result of the simulation with index information relating to the simulation performed.

Kumashiro teaches storing the result of the simulation with index information relating to the simulation performed (Abstract).

Faruque et al. and Kumashiro are analogous art because they are both related to a method of a simulation with mesh.

Therefore, it would have been obvious to one of ordinary skill in the art of at the time the invention was made to include the teaching of Kumashiro, in the method of interactively assembling a model of Faruque et al. to generate a quality model (Faruque et al. : [0010]).

As per Claim 36, Faruque et al. teaches wherein information relating to the physical properties of the object is at least one of welds, bonds, bolts, sealers, adhesives, pin joints, and ball joints ([0039], [0041]).

As per Claim 41, Faruque et al. teaches wherein, upon library completion of all pending task list activities for objects within the assembly, the assembly is approved for commercial release (Abstract).

As per Claim 47, Faruque et al. teaches wherein: the object database is accessible by a user through a design user interface wherein the user is granted access to a predetermined portion of the object database in dependence upon an aspect of the user (Fig. 1).

6. Claims 44 and 46 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Faruque et al. (U.S. Pub. No 2003/0149500), in view of Kumashiro (US 6360190 B1), further in view of Hazama et al. (U.S. Patent No. 6,212,441).

Faruque et al. as modified by Kumashiro teaches most all of the instant invention as applied to claims 36, 41, 45, and 47 above.

As per Claim 44, Faruque et al. as modified by Kumashiro teaches each user interface accessible by individual users involved with designing, assembling and simulation testing of the assembly, and wherein the pending task list activities for each object within the assembly are maintained and accessible by individual users to make assembly refinements based on the pending task list activities (Faruque et al. : Fig. 1).

Faruque et al. as modified by Kumashiro fails to teach explicitly wherein the user interface comprises a plurality of user interfaces.

Hazama et al. teaches wherein the user interface comprises a plurality of user interfaces. (Fig. 1).

Faruque et al. as modified by Kumashiro and Hazama et al. are analogous art because they are both related to a method of a design system.

Therefore, it would have been obvious to one of ordinary skill in the art of at the time the invention was made to include a plurality of workstations of Hazama et al., in the method of interactively assembling a model of Faruque et al. as modified by Kumashiro because the a plurality of user interaces is a well known process for a ordinary skilled artisan in a method of interactively assembling a model. Hazama et al. teaches an advantageous system that provides central stored the design and the job so they can be easily accessed and retrieved from any area in the factory (Col. 4 lines 9-35).

As per Claim 46, Faruque et al. as modified by Kumashiro teaches wherein: the simulation information includes data concerning at least one of crash impact, durability and noise characteristics of the assembly retrievable through a user interface (Faruque et al. : [0021] and [0025]).

Faruque et al. as modified by Kumashiro fails to teach explicitly a second user interface.

Hazama et al. teaches a second user interface (Fig. 1).

7. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faruque et al. (U.S. Pub. No 2003/0149500) in view of Kumashiro (US 6360190 B1).

Faruque et al. as modified by Kumashiro teaches most all of the instant invention as applied to claims 36, 41, 45, and 47 above.

Faruque et al. as modified by Kumashiro teaches wherein: the user interface, in allowing for at least one of the specification and method of joining objects, provides user selectable joint options, each joint option relating to a joint selected from the group comprising welds, bonds, bolts, and pin joints (Faruque et al. : [0043])

However, Faruque et al. as modified by Kumashiro fails to explicitly teach sealers, adhesives, ball joints, rivets, and screws.

It was known at the time the invention was made that various types of mechanical connecting means include another connecting means such as sealers, adhesives, ball joints, rivets, and screws for system of interactively assembling a model. At the time the invention was made, it would have been obvious to one of ordinary skill in the art of technology of modeling and virtual evaluation system for mechanical assemblies to various types of connecting means including sealers, adhesives, ball joints, rivets, and screws. The motivation would have been to ensure the quality and consistency of the assembled mesh model, which results in improved the analysis (Faruque et al.: Paragraph [0035]).

Therefore it would have been obvious to modify Faruque et al. as modified by Kumashiro to obtain the invention as specified in claim 48.

Response to Arguments

8. Applicant's arguments filed 11/01/2010 have been fully considered but they are not persuasive.

Applicants have argued that:

> Where Faruque may disclose that a user may be provided a summary of mesh connections and their status (see paragraph [0050]), neither Faruque nor Hazama disclose (among other features) a task list of activities pending for the assembly (such as a list of required corrections of incongruities or failures).

Examiner disagrees as Faruque et al. teaches the methodology that may summarized unconnected component parts to assist the user in selecting a connecting means ([0042]).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUNHEE KIM whose telephone number is (571)272-2164. The examiner can normally be reached on 8:30am-5:00pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Eunhee Kim/
Examiner, Art Unit 2123

/Paul L Rodriguez/
Supervisory Patent Examiner, Art Unit 2123